

Abstract of the Disclosure

5 A modified alkali silicate composition for forming an inorganic network matrix.
The modified alkali silicate matrix is made by reacting an alkali silicate (or its precursors
such as an alkali hydroxide, a SiO_2 source and water), an acidic inorganic composition,
such as a reactive glass, water and optional fillers, additives and processing aids. An
inorganic matrix composite can be prepared by applying a slurry of the modified aqueous
10 alkali silicate composition to a reinforcing medium and applying the temperature and
pressure necessary to consolidate the desired form. The composite can be shaped by
compression molding as well as other known fabrication methods. A notable aspect of the
invention is that, although composite and neat resin components prepared from the
invention can exhibit excellent dimensional stability to 1000°C and higher, they can be
15 prepared at the lower temperatures and pressures typical to organic polymer processing.

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